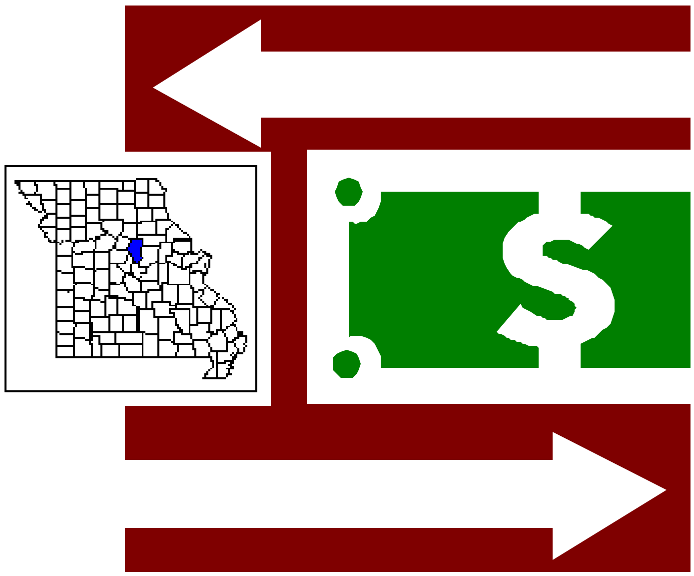
Money on the Move:
Income Impacts of Migration in the Columbia Missouri Metropolitan Area



Principal Investigator:
David J. Peters

TECHNICAL PAPER

P-1002-1
October 2002

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I. Introduction

It is now widely recognized that the geography of economic activity in advanced societies is influenced to a strong degree by the migration of people into and out of different areas. In order to understand the migration patterns in their region, policy makers need to know the location and magnitude of migration into and out of their regions. By doing so, officials can begin to discern possible causes of this migration, which can then be used to craft policies that maximize the benefits and minimizes the costs of migration. Although migration research generally concerns itself with the flow of people, of equal interest is the flow of income into and out of an area. From a public policy perspective, the flow of both income and people is important given its mandate to provide services to residents.

Migration is generally bifurcated into two main types - discretionary and economic. Discretionary migration is primarily induced by factors such as natural, cultural and social amenities. Migration is discretionary since it is not induced by economic factors, such as employment opportunities. However, discretionary migration does bring with it economic benefits. For example, discretionary migration brings income and wealth into the new settlement location, and the circulation of this new disposable income in the economy creates employment and additional income. Economic migration is primarily induced by factors that increase employment opportunity. For example, immigration to an area may be induced by new natural resource discoveries, expanded industrial facilities, construction of new facilities, or the expansion of service functions. Conversely, out-migration may be caused by depressed local demand caused by changes in the export market, natural resource depletion, plant closings, adverse environmental conditions, or non-competitive labor markets.

However, there is paucity of information regarding the migration patterns of people and their incomes. The information that is available is dated and lacks regional specificity. The current analysis remedies this information gap by examining the components of income flows between counties within the United States using tax returns filed with the Internal Revenue Service. The IRS extracts include records for individual income tax forms 1040, 1040A and 1040EZ. The extracts usually contain about 95 to 98 percent of all returns filed during any particular tax year. The returns cover the tax filing units, including the filer and spouse of filer, plus all exemptions represented on the forms.

To illustrate the potential policy applications of this data, this analysis examines real dollar income flows between the Columbia Metropolitan Area and other areas both within Missouri and across the United States. The three main objectives, as they relate to the Columbia MSA between years 1997 and 2000, are: (1) to identify areas of substantial income inflows; (2) to identify areas of substantial income outflows; and (3) to identify areas net income surpluses and deficits.

The economy of the Columbia MSA and the surrounding central region is in many cases well ahead of the economy of Missouri as a whole. There has been a good amount economic growth in this region during the last ten years, with Boone County leading the way. The population growth since 1990 in the central region was 14.7%, compared to 9.1% for the state. The poverty rate for this area is 11.4%. This compares with 11.8% for the state as a whole. The unemployment rate during 2001 for the central region was 3.1%, much lower than the state´s rate of 4.7% and in fact the lowest of any region. Growth in personal income and per capita income in the central region over the past decade has surpassed the growth for the state as a whole. However, per capita income in the region was only $24,571 during 2000, compared with $27,271 for the state.

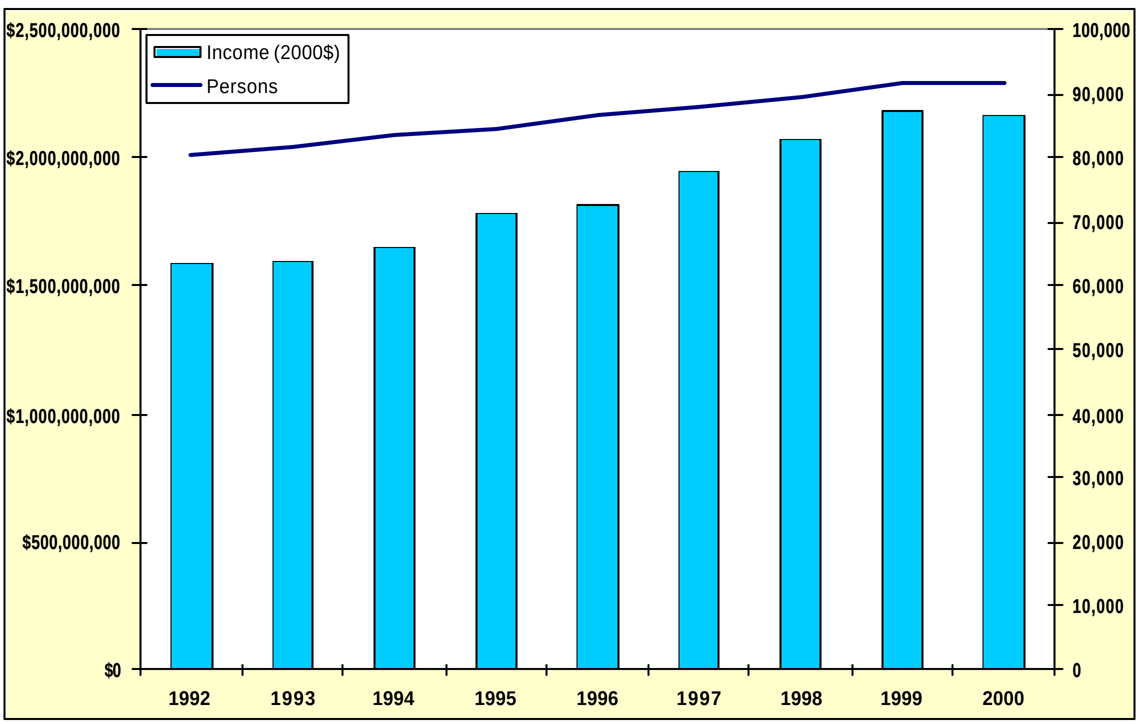
Figure 1.
Missouri Central Region.

II. Overview of Migration and Non-Migration

Before one can discuss how migration impacts the economy, one first needs to take into account the economic impacts of non-migrants. As the name suggests, non-migrants for any given year are those persons who resided in Boone County both in the current year and the previous year. Knowing non-migrant income and population is important for two reasons. First, it establishes a base upon which to compare migration numbers, in order to assess the degree of impact. For example, one can ascertain whether migration accounts for either a large or small share of the total income-earning base. Second, it provides an estimate of the overall wealth of the region and trends over time. For example, one can estimate wealth by calculating per capita incomes.

Since 1992, both real dollar incomes and the number of people have increased, especially during the last half of the 1990s. Total non-migrant income peaked in 1999 at $2.18 billion dollars, translating into a per capita income of $23,871 assuming a population of 91,484 income-earners and their dependents. However, by 2000 this growth had leveled off to only $2.16 billion dollars, translating into a per capita income of $23,637 assuming a population of 91,455.

Figure 2.
Non-Migrant Income for the Columbia MSA, by Year 1992-2000.



Source: Internal Revenue Service. Reported in 2000 dollars.

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It is estimated that 31,431 people moved into the Columbia MSA between 1997 and 2000, bringing with them $589.76 million in income. In-migrants from outside of Missouri had higher per capita incomes than those from within Missouri or those from foreign areas. The 13,443 people who migrated to Columbia from outside Missouri had average per capita incomes of $21,179, resulting in $284.71 million in aggregate income. The 16,713 people who migrated to Columbia from within Missouri had lower per capita incomes of $17,485, resulting in $292.23 million in aggregate income.

Examining real dollar income inflows by year, there was an upward trend of income entering Columbia for each year between 1997 and 2000. More income flowed into Columbia from within Missouri than from outside Missouri for each year between 1997 and 1999. However, taken as a percentage of total non-migrant income, in-migration added between 6.5% and 6.7% more in total income per annum between 1997 and 1999, which increased to 8.4% more in total income by 2000.

The number of people entering Columbia remained stable between years 1997 and 1999. Taken as a percentage of total non-migrant population, in-migration added between 8.2% and 8.4% more people per annum between 1997 and 1999, which increased to 9.6% more people by 2000.

Table 1.
Origination of Migrant Income Entering the Columbia MSA, by Year 1997-2000.

	1997		***1998***		***1999***		***2000***	
Inflows to Columbia MSA	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*
From Missouri	$64,649,566	3,958	$66,231,501	3,963	$73,176,731	4,106	$88,174,000	4,686
From United States	$62,094,998	3,235	$66,232,557	3,211	$65,003,950	2,963	$91,374,000	4,034
From Foreign Areas	$1,399,058	229	$1,568,816	280	$8,304,050	404	$1,553,000	362
Total Inflows	**$128,143,622**	**7,422**	**$134,033,930**	**7,454**	**$146,484,731**	**7,473**	**$181,101,000**	**9,082**
Percent of Total	**6.6%**	**8.4%**	**6.5%**	**8.3%**	**6.7%**	**8.2%**	**8.4%**	**9.6%**
Non-Migration	$1,946,718,318	88,019	$2,072,193,526	89,591	$2,183,840,193	91,484	$2,161,746,000	94,455

Source: Internal Revenue Service. Reported in 2000 dollars.

Conversely, it is estimated that 31,493 people moved out of the Columbia MSA, taking with them $595.61 million in income. People migrating to areas outside of Missouri left with higher per capita incomes than those migrating to areas within Missouri or to foreign areas. The 15,612 people who migrated to areas outside of Missouri had average per capita incomes of $20,298, resulting in a loss of $316.90 million in aggregate income from Columbia. The 15,526 people who migrated to areas within Missouri had lower per capita incomes of $17,605, resulting in a loss of $273.34 million in aggregate income.

Examining real dollar income outflows by year, there was also an upward trend of income leaving Columbia for each year between 1997 and 2000. More income flowed out of Columbia to areas outside of Missouri than to areas within Missouri for all years. This indicates that a larger share of income leaves Columbia and moves out-of-state. However, taken as a percentage of total non-migrant income, out-migration deducted between 6.5% and 6.9% in total income per annum between 1997 and 1999, which increased to 8.2% less in total income by 2000.

However, the number of people leaving Columbia remained stable between years 1997 and 1999. Taken as a percentage of total non-migrant population, out-migration deducted between 8.1% and 8.5% of total population per annum between 1997 and 1999, which increased to 9.7% fewer persons by 2000.

Table 2.
Destination of Migrant Income Leaving the Columbia MSA, by Year 1997-2000.

	1997		***1998***		***1999***		***2000***	
Outflows from Columbia MSA	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*
To Missouri	$62,105,727	3,771	$64,711,281	3,676	$67,989,025	3,668	$78,534,000	4,411
To United States	$69,422,886	3,641	$68,070,766	3,687	$81,019,790	3,623	$98,382,000	4,661
To Foreign Areas	$1,105,084	74	$2,069,569	106	$1,139,042	86	$1,064,000	89
Total Outflows	**$132,634,770**	**7,486**	**$134,851,616**	**7,469**	**$150,147,857**	**7,377**	**$177,980,000**	**9,161**
Percent of Total	**6.8%**	**8.5%**	**6.5%**	**8.3%**	**6.9%**	**8.1%**	**8.2%**	**9.7%**
Non-Migration	$1,946,718,318	88,019	$2,072,193,526	89,591	$2,183,840,193	91,484	$2,161,746,000	94,455

Source: Internal Revenue Service. Reported in 2000 dollars.

On balance, the Columbia MSA lost 62 people and $5.85 million in aggregate income between 1997 and 2000 due to out-migration than it gained from in-migration. For those entering and leaving the Columbia MSA from outside of Missouri, the metro lost 2,169 people and $32.19 million in income due to out-migration. In terms of migration within Missouri, the metro gained 1,187 persons and $18.91 million more in income due to in-migration.

Examining the net difference in real income across the four-year period, 2000 was the only year in which the Columbia MSA had a net gain of income due to migration, while 1997 saw the largest loss of income and 1998 the smallest. Oddly, in 1999 Columbia lost a large amount if income due to net migration, yet experienced an increase of residents. This indicates the outflow of small-size households with higher incomes out of Columbia and the inflow of large-size households with smaller incomes. Equally odd, in 2000 the metro gained a large amount of net income, yet experienced a loss of residents. Again, this is attributable to the inflow small-size households with higher incomes and the outflow of large-size households with smaller incomes.

However, this net difference was quite small when compared to the total non-migrant income and population of the Columbia MSA. For example, although the largest dollar losses occurred in 1997 and 1999, it accounted for only a 0.2% reduction in total income. Conversely, the net dollar gain in 2000 accounted for only a 0.1% gain in total income in the Columbia MSA.

Table 3.
Net Differences of Migrant Income for the Columbia MSA, by Year 1997-2000.

	1997		***1998***		***1999***		***2000***	
Net Difference Columbia MSA	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*
Missouri	$2,543,839	187	$1,520,220	287	$5,187,706	438	$9,640,000	275
United States	-$7,327,888	-406	-$1,838,209	-476	-$16,015,840	-660	-$7,008,000	-627
Foreign Areas	$293,974	155	-$500,753	174	$7,165,008	318	$489,000	273
Total	**-$4,491,148**	**-64**	**-$817,686**	**-15**	**-$3,663,126**	**96**	**$3,121,000**	**-79**
Percent of Total	**-0.2%**	**-0.1%**	**0.0%**	**0.0%**	**-0.2%**	**0.1%**	**0.1%**	**-0.1%**
Non-Migration	$1,946,718,318	88,019	$2,072,193,526	89,591	$2,183,840,193	91,484	$2,161,746,000	94,455

Source: Internal Revenue Service. Reported in 2000 dollars.

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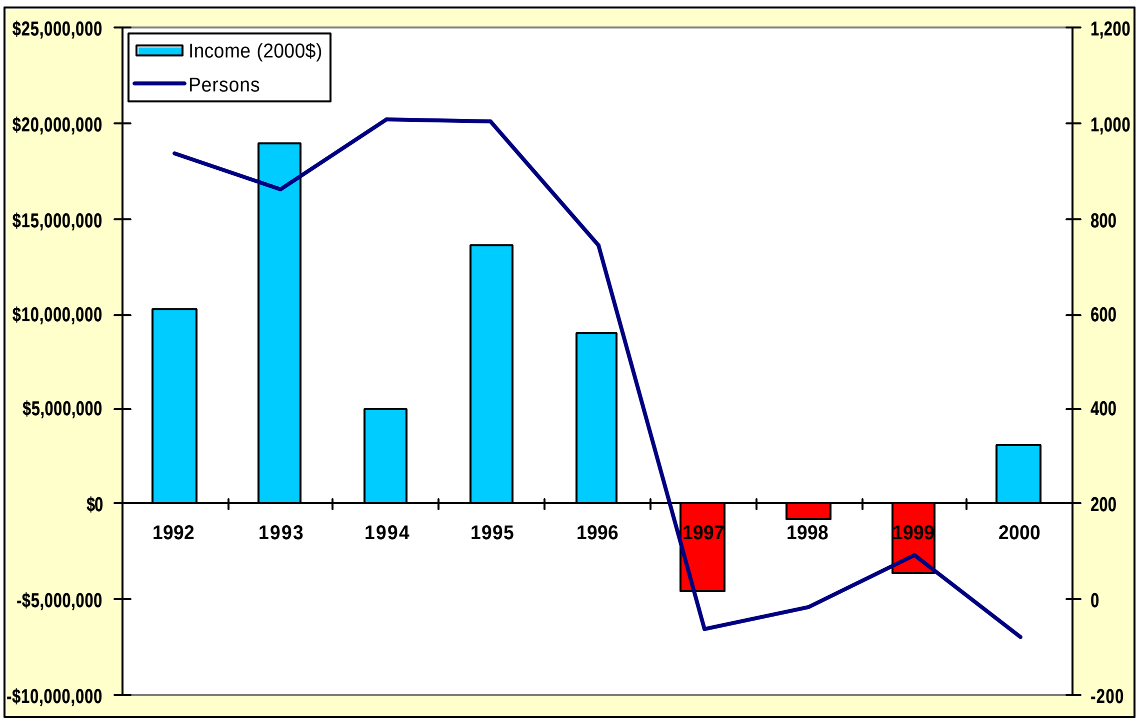
Looking at historic trends for most of the 1990s, the Columbia MSA experienced a net gain of income due to migration between 1992 and 1996, and in 2000. Net gains in the first part of the 1990s was during a period when the economy was recovering from a mild recession in the early part of the decade, with the small drop in 1994 most likely due to the floods. Oddly, the last half of the 1990s Columbia experienced a small net loss of income due to migration. This period was characterized by the information technology economic boom, and it is possible that professionals, students and recent college graduates left Columbia for employment opportunities in the nation's technology centers. These two findings - gain in the recession years of the early 1990s and losses in the boom years of the late 1990s - provides some indication that the economy of the Columbia MSA may be counter-cyclical, al least in terms of migration.

Figure 3.
Net Differences of Migrant Income for the Columbia MSA, by Year 1992-2000.



Source: Internal Revenue Service. Reported in 2000 dollars.

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III. Income Migration Within Missouri

Within Missouri, the Columbia MSA both gained and lost the most income from adjacent counties and other metro areas. People moving into Columbia from St. Louis, Jefferson City and Callaway County had higher per capita incomes than those leaving Columbia to live in those same areas. People leaving Columbia to reside in St. Charles County, Cooper and Howard counties had higher per capita incomes than those entering Columbia from those same areas.

Table 4.
Income Entering the Columbia MSA by Missouri Origination, Totals 1997-2000.

County Origination of Inflows	*Aggregate Income*	*Persons*	*Per Capita Income*	*Average Household Size*
St Louis MO (St. Louis)	$35,489,746	1,524	$23,287	1.5
Cole MO (Jefferson City)	$25,122,928	1,179	$21,309	1.6
Callaway MO (Fulton)	$20,191,464	1,315	$15,355	1.8
Audrain MO (Mexico)	$18,493,922	1,020	$18,131	1.8
Jackson MO (Kansas City)	$17,652,497	926	$19,063	1.5
Randolph MO (Moberly)	$13,508,089	864	$15,634	1.8
Greene MO (Springfield)	$11,959,469	711	$16,821	1.7
St Charles MO (St. Louis)	$10,887,082	536	$20,312	1.7
Cooper MO (Boonville)	$8,436,910	548	$15,396	1.7
Howard MO (Fayette)	$6,432,966	472	$13,629	1.8

Source: Internal Revenue Service. Reported in 2000 dollars.

Table 5.
Income Leaving the Columbia MSA by Missouri Destination, Totals 1997-2000.

County Destination of Outflows	*Aggregate Income*	*Persons*	*Per Capita Income*	*Average Household Size*
St Louis MO (St. Louis)	$42,034,137	1,895	$22,182	1.5
Jackson MO (Kansas City)	$25,398,720	1,311	$19,374	1.5
Callaway MO (Fulton)	$24,074,232	1,554	$15,492	1.9
Cole MO (Jefferson City)	$19,515,857	1,018	$19,171	1.7
St Charles MO (St. Louis)	$13,704,662	624	$21,963	1.7
Cooper MO (Booneville)	$12,508,352	649	$19,273	1.9
Audrain MO (Mexico)	$12,002,548	792	$15,155	1.9
Greene MO (Springfield)	$9,981,904	579	$17,240	1.8
Howard MO (Fayette)	$8,723,375	580	$15,040	2.0
St Louis City MO (St. Louis)	$8,699,982	479	$18,163	1.4

Source: Internal Revenue Service. Reported in 2000 dollars.

By taking into account the net difference between income flowing into Columbia and income flowing out of Columbia, one can identify areas of net income surplus or deficit. On balance, the Columbia MSA gained more in income than it lost from the larger regional cities in central Missouri. This in-migration to Columbia is partly attributable to the movement of professionals and college students for employment opportunities and higher education.

The top counties where Columbia pulls in surplus income include Audrain (Mexico), Cole (Jefferson City), Randolph (Moberly), Pettis (Sedalia), Pulaski (Fort Leonard Wood), Adair (Kirksville), Macon (Macon), Greene (Springfield), Phelps (Rolla) and Butler (Popular Bluff).

Table 6.
Income Surplus Entering the Columbia MSA by Missouri Origination, Totals 1997-2000.

	Inflows		***Outflows***		
County Origination of Surplus	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	***Aggregate Income Balance***
Audrain MO (Mexico)	$18,493,922	1,020	$12,002,548	792	$6,491,374
Cole MO (Jefferson City)	$25,122,928	1,179	$19,515,857	1,018	$5,607,071
Randolph MO (Moberly)	$13,508,089	864	$8,258,292	667	$5,249,797
Pettis MO (Sedalia)	$5,193,861	257	$2,396,855	163	$2,797,006
Pulaski MO (Ft. Leonard Wood)	$2,763,548	158	$522,948	43	$2,240,600
Adair MO (Kirksville)	$4,436,759	280	$2,322,167	149	$2,114,592
Macon MO (Macon)	$4,095,047	260	$2,096,326	158	$1,998,721
Greene MO (Springfield)	$11,959,469	711	$9,981,904	579	$1,977,565
Phelps MO (Rolla)	$3,985,370	265	$2,117,052	133	$1,868,318
Butler MO (Poplar Bluff)	$1,535,125	53	$0	0	$1,535,125

Source: Internal Revenue Service. Reported in 2000 dollars.

Table 7.
Selected Statistics for Income Surplus Counties in Missouri, 2000.

Indicators for 2000	Boone MO	Audrain MO	Cole MO	Randolph MO	Pettis MO	Pulaski MO
Population	135,454	25,853	71,397	24,663	39,403	41,165
Population Percent Change from 1990	20.5	9.6	12.3	1.2	11.2	-0.3
Percent Under 18 Years	22.8	24.6	24.2	23.8	26.3	27.5
Percent Over 65 Years	8.6	16.9	11.3	14.8	15.4	7.9
Percent with a High School Degree or Higher	89.2	75.1	85.3	77.1	78.3	85.1
Percent with a Bachelor's Degree or Higher	41.7	12.7	27.4	11.7	15.0	18.8
Median Household Income	$37,485	$32,057	$42,924	$31,464	$31,822	$34,247
Percent Person Below Poverty	14.5	14.8	8.7	12.5	12.8	10.3
Metropolitan Area	X					
Percent of Employment by Industry						
Agriculture, Forestry, Fishing & Hunting	1.0	6.6	1.0	2.5	3.3	2.0
Mining	0.1	0.3	0.1	0.1	0.2	0.1
Construction	5.1	4.8	7.0	5.1	7.1	6.4
Manufacturing	6.8	23.4	8.0	19.4	23.5	9.1
Wholesale Trade	3.1	2.5	3.0	3.7	3.6	1.3
Retail Trade	11.3	12.6	9.7	12.4	12.2	12.9
Transportation & Warehousing	2.0	3.6	2.0	5.0	3.7	3.9
Utilities	0.9	1.3	1.5	2.2	0.9	0.8
Information	2.6	1.4	2.4	1.4	2.3	1.5
Finance & Insurance	5.7	3.2	4.7	4.4	2.8	3.1
Real Estate. Rental & Leasing	1.7	1.0	1.2	2.2	0.8	1.1
Professional, Scientific & Technical Services	4.0	2.2	3.9	1.4	2.3	1.9
Management of Companies & Enterprises	0.1	0.0	0.0	0.0	0.0	0.0
Administrative, Support & Waste Mgmt Services	2.3	1.0	2.4	2.1	1.5	1.8
Educational Services	19.0	6.9	7.9	9.1	7.5	9.8
Health Care & Social Assistance	17.8	13.7	10.1	11.4	11.5	11.8
Entertainment, Accommodation & Food Services	8.3	4.0	5.7	6.6	7.3	10.3
Other Services	4.0	5.4	4.9	4.4	5.4	6.8
Public Administration	4.4	6.0	24.4	6.4	4.0	15.2

Source: US Bureau of the Census.

Conversely, the Columbia MSA lost more in income than it gained from the major metropolitan areas, adjacent rural counties and the Lake of the Ozarks region. This out-migration from Columbia is partly attributable to the movement of professionals and newly graduated college students to the state's core metropolitan areas for employment opportunities, the suburbanization of adjacent rural counties by people who work in Columbia, and the discretionary migration of retirees to natural amenity areas.

The top counties where Columbia loses income include Jackson (Kansas City), St. Louis, Cooper (Booneville), Callaway (Fulton), St. Louis City, St. Charles, Howard (Fayette), Clay (Kansas City), Camden (Lake of the Ozarks) and Christian (Springfield/Branson).

Table 8.
Income Deficit Leaving the Columbia MSA by Missouri Destination, Totals 1997-2000.

	Inflows		***Outflows***		
County Destination of Deficit	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	***Aggregate Income Balance***
Jackson MO (Kansas City)	$17,652,497	926	$25,398,720	1,311	-$7,746,223
St Louis MO (St. Louis)	$35,489,746	1,524	$42,034,137	1,895	-$6,544,391
Cooper MO (Boonville)	$8,436,910	548	$12,508,352	649	-$4,071,442
Callaway MO (Fulton)	$20,191,464	1,315	$24,074,232	1,554	-$3,882,768
St Louis City MO (St. Louis)	$5,035,859	342	$8,699,982	479	-$3,664,123
St Charles MO (St. Louis)	$10,887,082	536	$13,704,662	624	-$2,817,580
Howard MO (Fayette)	$6,432,966	472	$8,723,375	580	-$2,290,409
Clay MO (Kansas City)	$5,458,332	289	$7,262,040	392	-$1,803,708
Camden MO (Lake of the Ozarks)	$5,633,237	240	$7,111,665	257	-$1,478,428
Christian MO (Springfield)	$1,599,978	94	$2,833,844	122	-$1,233,866

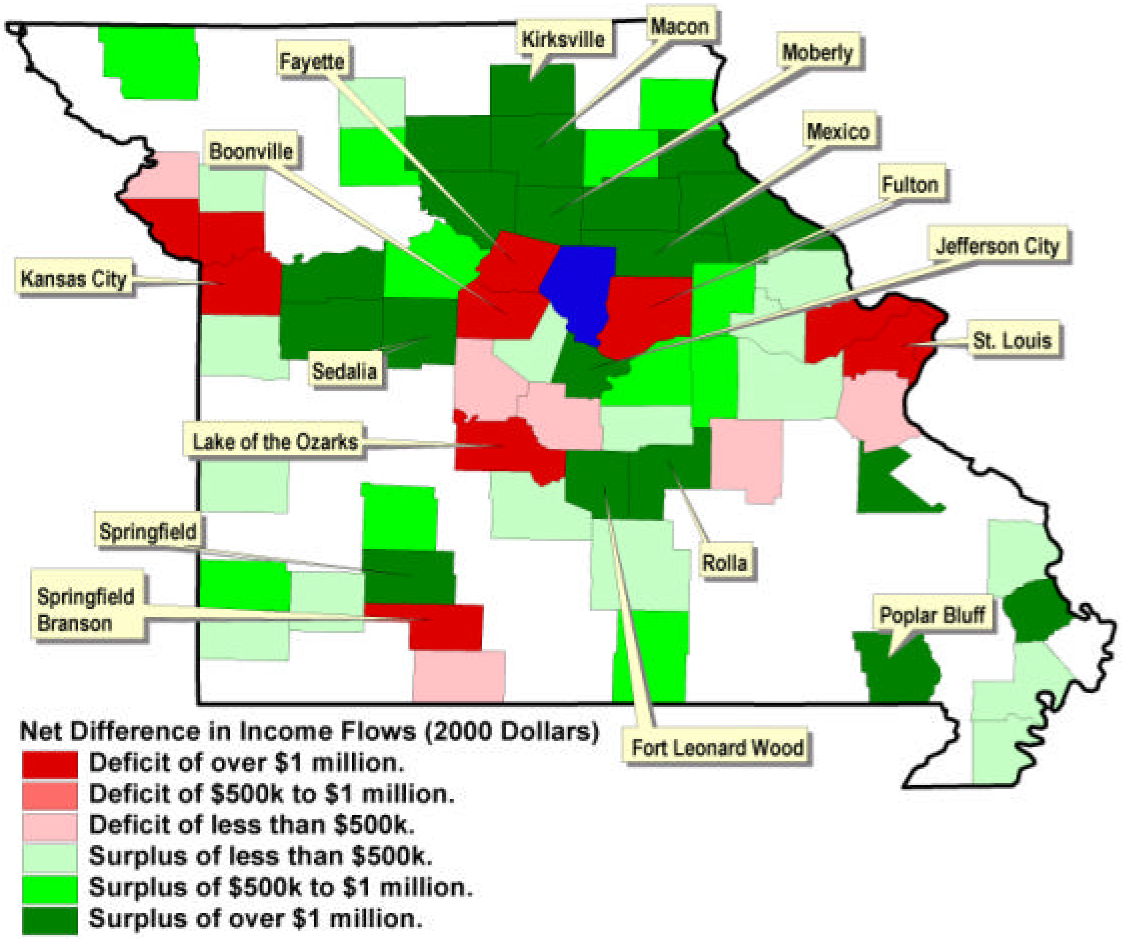
Source: Internal Revenue Service. Reported in 2000 dollars.

Table 9.
Selected Statistics for Income Deficit Counties in Missouri, 2000.

Indicators for 2000	Boone MO	Jackson MO	St. Louis MO	Cooper MO	Callaway MO	St. Louis City MO
Population	135,454	654,8800	1,016,315	16,670	40,766	348,189
Population Percent Change from 1990	20.5	3.4	2.3	12.4	24.3	-12.2
Percent Under 18 Years	22.8	25.8	25.2	22.8	25.4	25.7
Percent Over 65 Years	8.6	12.5	14.1	15.2	11.0	13.7
Percent with a High School Degree or Higher	89.2	83.4	88.0	80.3	78.9	71.3
Percent with a Bachelor's Degree or Higher	41.7	23.4	35.4	13.7	16.5	19.1
Median Household Income	$37,485	$39,277	$50,532	$35,313	$39,110	$27,156
Percent Person Below Poverty	14.5	11.9	6.9	10.7	8.5	24.6
Metropolitan Area	X	X	X			X
Percent of Employment by Industry						
Agriculture, Forestry, Fishing & Hunting	1.0	0.3	0.2	5.3	2.3	0.3
Mining	0.1	0.0	0.1	0.4	0.3	0.0
Construction	5.1	6.6	4.9	7.7	8.9	3.9
Manufacturing	6.8	11.1	12.7	15.2	10.5	12.0
Wholesale Trade	3.1	3.8	4.2	3.3	2.5	2.8
Retail Trade	11.3	11.3	11.3	10.5	11.4	9.7
Transportation & Warehousing	2.0	4.5	4.6	4.1	3.5	5.0
Utilities	0.9	0.9	0.8	0.6	2.3	0.8
Information	2.6	5.3	3.8	1.8	2.2	3.2
Finance & Insurance	5.7	6.9	6.9	4.5	3.4	4.7
Real Estate. Rental & Leasing	1.7	1.9	2.1	0.9	1.0	1.9
Professional, Scientific & Technical Services	4.0	6.0	7.9	2.3	2.1	5.0
Management of Companies & Enterprises	0.1	0.0	0.1	0.1	0.0	0.1
Administrative, Support & Waste Mgmt Services	2.3	3.6	3.1	1.3	2.0	4.7
Educational Services	19.0	7.2	9.5	9.6	10.1	8.8
Health Care & Social Assistance	17.8	11.4	12.1	13.2	14.9	14.7
Entertainment, Accommodation & Food Services	8.3	8.5	7.6	5.8	5.5	10.5
Other Services	4.0	5.5	4.8	5.3	4.8	5.9
Public Administration	4.4	5.3	3.3	8.2	12.2	6.1

Source: US Bureau of the Census.

Figure 4.
Income Surplus and Deficit from Missouri for the Columbia MSA, Totals 1997-2000.



NOTE: Net Deficit indicates the destination of income that left the Columbia MSA (income out-migration to the county exceeded income in-migration from the county).
Net Surplus indicates the origination of income that entered the Columbia MSA (income in-migration from the county exceeded income out-migration to the county).

IV. Income Migration Within United States

In looking at migration outside of Missouri, the Columbia MSA gained and lost the most income from large metropolitan areas and from centers of government (Springfield IL), higher education (Austin TX) and insurance (Bloomington-Normal IL). In general, people moving into Columbia from outside Missouri had higher per capita incomes and larger households than those leaving Columbia for other parts of the United States - except for the Bloomington-Normal area which is dominated by the insurance industry.

Table 10.
Income Entering the Columbia MSA by United States Origination, Totals 1997-2000.

County Origination of Inflows	*Aggregate Income*	*Persons*	*Per Capita Income*	*Average Household Size*
Johnson KS (Kansas City)	$7,792,140	309	$25,217	1.8
Cook IL (Chicago)	$5,835,709	255	$22,885	1.6
San Diego CA (San Diego)	$4,309,419	125	$34,475	2.0
Maricopa AZ (Phoenix)	$3,956,942	145	$27,289	1.7
Harris TX (Houston)	$3,412,412	149	$22,902	1.8
Los Angeles CA (Los Angles)	$3,344,091	162	$20,643	1.6
Mclean IL (Bloomington-Normal)	$3,075,411	119	$25,844	2.0
Du Page IL (Chicago)	$2,838,818	118	$24,058	1.6
Sangamon IL (Springfield)	$2,721,604	75	$36,288	2.0
Tulsa OK (Tulsa)	$2,371,604	111	$21,366	1.9

Source: Internal Revenue Service. Reported in 2000 dollars.

Table 11.
Income Leaving the Columbia MSA by United States Destination, Totals 1997-2000.

County Destination of Outflows	*Aggregate Income*	*Persons*	*Per Capita Income*	*Average Household Size*
Johnson KS (Kansas City)	$15,282,136	610	$25,053	1.6
Cook IL (Chicago)	$7,535,039	348	$21,652	1.3
Maricopa AZ (Phoenix)	$4,899,239	267	$18,349	1.6
Mclean IL (Bloomington-Normal)	$4,761,412	166	$28,683	2.8
Los Angeles CA (Los Angles)	$3,742,096	199	$18,805	1.4
Harris TX (Houston)	$3,093,925	144	$21,486	1.6
Travis TX (Austin)	$3,042,244	129	$23,583	1.5
Tarrant TX (Dallas-Fort Worth)	$3,019,015	110	$27,446	1.7
Dallas TX (Dallas-Fort Worth)	$2,894,162	128	$22,611	1.4
King WA (Seattle)	$2,826,136	147	$19,225	1.5

Source: Internal Revenue Service. Reported in 2000 dollars.

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By taking into account the net difference between income flowing into Columbia and income flowing out of Columbia, one can identify areas of net income surplus or deficit. On balance, the Columbia MSA gained more in income than it lost to coastal metropolitan areas (San Diego CA, Miami FL) and centers of higher education, health care and government (Springfield IL, Quincy IL, Urbana IL, Cedar Rapids IA). This in-migration to Columbia is partly attributable to the movement of professionals and college students for opportunities in higher education and health care.

The top counties where Columbia pulls in surplus income from outside of Missouri include Sangamon IL (Springfield), San Diego CA, Adams IL (Quincy), Pulaski AR (Little Rock), Dade FL (Miami), Champaign IL (Urbana-Champaign), Madison IL (Edwardsville-St. Louis), Linn IA (Cedar Rapids), Knox TN (Knoxville) and Clarke GA (Athens).

Table 12.
Income Surplus Entering the Columbia MSA by United States Origination, Totals 1997-2000.

	Inflows		***Outflows***		***Aggregate Income Balance***
County Origination of Surplus	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	
Sangamon IL (Springfield)	$2,721,604	75	$0	0	$2,721,604
San Diego CA (San Diego)	$4,309,419	125	$2,622,744	166	$1,686,675
Adams IL (Quincy)	$1,545,471	98	$455,326	30	$1,090,145
Pulaski AR (Little Rock)	$1,358,341	56	$519,908	26	$838,433
Dade FL (Miami)	$796,000	15	$0	0	$796,000
Champaign IL (Urbana)	$2,200,022	92	$1,421,159	77	$778,863
Madison IL (St. Louis)	$1,384,216	96	$666,134	47	$718,082
Linn IA (Cedar Rapids)	$1,398,729	36	$709,059	25	$689,670
Knox TN (Knoxville)	$629,000	21	$0	0	$629,000
Clarke GA (Athens)	$596,000	20	$0	0	$596,000

Source: Internal Revenue Service. Reported in 2000 dollars.

Table 13.
Selected Statistics for Income Surplus Counties in the United States, 2000.

Indicators for 2000	Boone MO	Sangamon IL	San Diego CA	Adams IL	Pulaski AR	Dade FL
Population	135,454	188,951	2,813,833	68,277	361,474	2,253,362
Population Percent Change from 1990	20.5	5.9	12.6	3.3	3.4	16.3
Percent Under 18 Years	22.8	25.0	25.7	24.9	25.2	24.8
Percent Over 65 Years	8.6	13.5	11.2	17.6	11.5	13.3
Percent with a High School Degree or Higher	89.2	88.1	82.6	83.7	84.4	67.9
Percent with a Bachelor's Degree or Higher	41.7	28.6	29.5	17.6	28.1	21.7
Median Household Income	$37,485	$42,957	$47,067	$34,784	$38,120	$35,966
Percent Person Below Poverty	14.5	9.3	12.4	10.0	13.3	18.0
Metropolitan Area	X	X	X		X	X
Percent of Employment by Industry						
Agriculture, Forestry, Fishing & Hunting	1.0	0.9	0.7	2.8	0.4	0.7
Mining	0.1	0.3	0.0	0.3	0.1	0.0
Construction	5.1	5.5	6.6	5.8	5.6	6.9
Manufacturing	6.8	4.3	11.0	16.6	8.6	7.1
Wholesale Trade	3.1	2.5	3.3	4.5	3.7	6.0
Retail Trade	11.3	10.0	11.3	13.8	12.1	12.3
Transportation & Warehousing	2.0	3.2	3.1	3.8	5.1	6.8
Utilities	0.9	1.2	0.7	0.7	0.9	0.7
Information	2.6	2.6	3.5	2.5	4.9	3.1
Finance & Insurance	5.7	5.9	4.5	4.2	5.7	5.0
Real Estate. Rental & Leasing	1.7	1.4	2.6	1.5	2.0	3.0
Professional, Scientific & Technical Services	4.0	4.9	8.7	1.7	5.2	6.1
Management of Companies & Enterprises	0.1	0.1	0.0	0.0	0.1	0.0
Administrative, Support & Waste Mgmt Services	2.3	3.0	4.5	2.9	3.2	5.4
Educational Services	19.0	8.6	9.0	8.3	7.7	7.5
Health Care & Social Assistance	17.8	13.8	10.3	14.3	15.1	10.4
Entertainment, Accommodation & Food Services	8.3	7.4	9.6	8.0	6.9	9.1
Other Services	4.0	5.3	5.2	5.1	5.8	5.6
Public Administration	4.4	19.4	5.4	3.2	6.9	4.1

Source: US Bureau of the Census.

Conversely, the Columbia MSA lost more in income than it gained to major metropolitans areas and centers of information technology (San Jose CA), higher education and health care (Austin TX, Fort Collins CO, Lawrence KS, Columbus OH) and insurance (Bloomington-Normal IL). This out-migration from Columbia is partly attributable to the movement of professionals and graduating college students to metropolitan areas for employment opportunities, faculty and students to centers of higher education, health professionals to major medical centers, and the movement of insurance professionals.

The top counties where Columbia loses income outside of Missouri include Johnson KS (Kansas City), Santa Clara CA (San Jose), Travis TX (Austin), Cook IL (Chicago), Mclean IL (Bloomington-Normal), King WA (Seattle), Larimer CO (Fort Collins), Douglas KS (Lawrence), Franklin OH (Columbus) and Orange CA (Los Angles)

Table 14.
Income Deficit Leaving the Columbia MSA by United States Destination, Totals 1997-2000.

	Inflows		***Outflows***		
County Destination of Deficit	*Aggregate Income*	*Persons*	*Aggregate Income*	*Persons*	***Aggregate Income Balance***
Johnson KS (Kansas City)	$7,792,140	309	$15,282,136	610	-$7,489,996
Santa Clara CA (San Jose)	$343,344	18	$2,444,268	111	-$2,100,924
Travis TX (Austin)	$1,094,924	53	$3,042,244	129	-$1,947,320
Cook IL (Chicago)	$5,835,709	255	$7,535,039	348	-$1,699,330
Mclean IL (Bloomington-Normal)	$3,075,411	119	$4,761,412	166	-$1,686,001
King WA (Seattle)	$1,212,721	55	$2,826,136	147	-$1,613,415
Larimer CO (Fort Collins)	$259,885	15	$1,562,142	69	-$1,302,257
Douglas KS (Lawrence)	$1,028,730	46	$2,090,862	94	-$1,062,132
Maricopa AZ (Phoenix)	$3,956,942	145	$4,899,239	267	-$942,297
Franklin OH (Columbus)	$661,513	16	$1,577,715	60	-$916,202

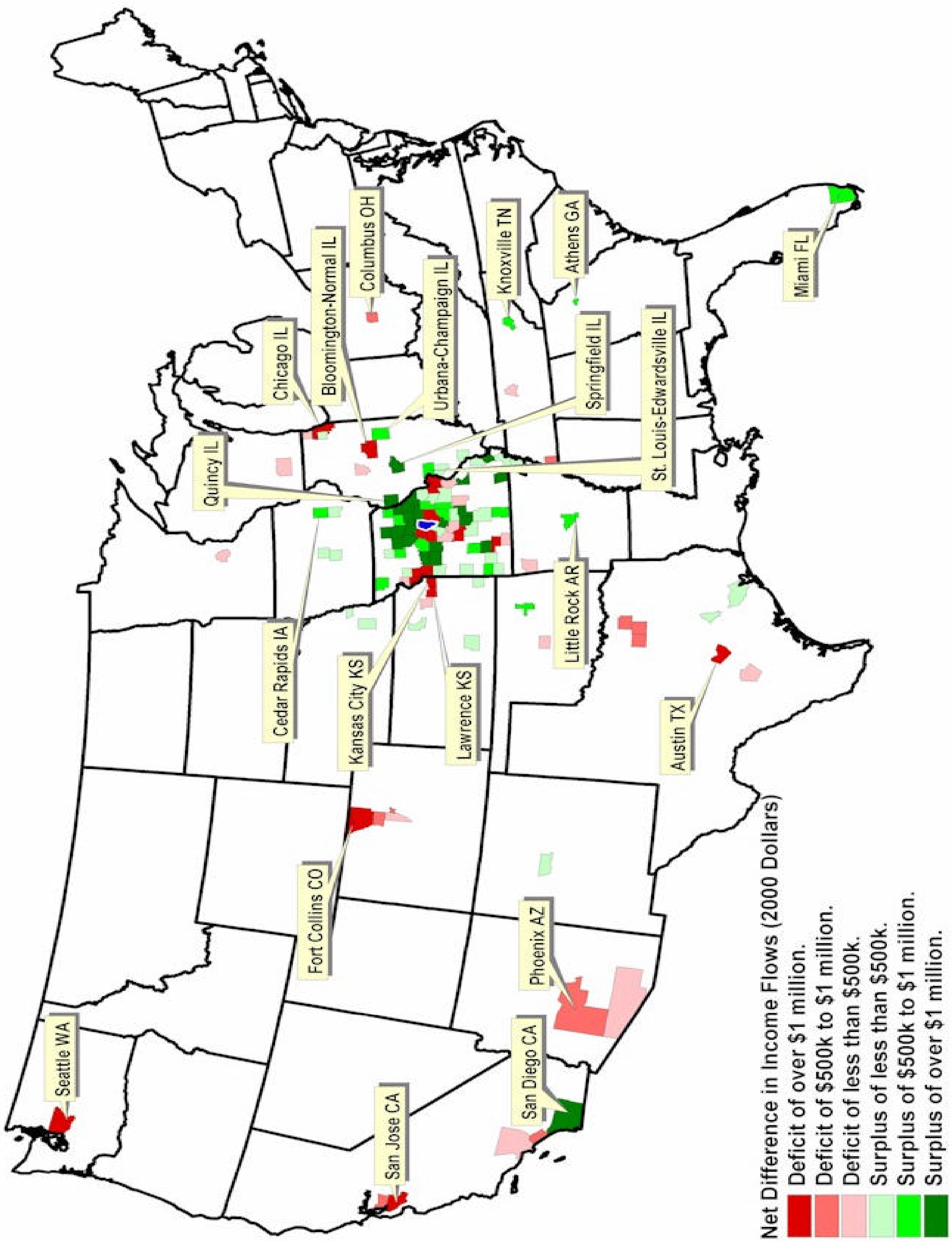
Source: Internal Revenue Service. Reported in 2000 dollars.

Table 15.
Selected Statistics for Income Deficit Counties in the United States, 2000.

Indicators for 2000	*Boone MO*	*Johnson KS*	*Santa Clara CA*	*Travis TX*	*Cook IL*	*McLean IL*
Population	135,454	451,086	1,682,585	812,280	5,376,741	150,433
Population Percent Change from 1990	20.5	27.1	12.4	40.9	5.3	16.5
Percent Under 18 Years	22.8	27.1	24.7	23.8	26.0	23.5
Percent Over 65 Years	8.6	10.0	9.5	6.7	11.7	9.7
Percent with a High School Degree or Higher	89.2	94.9	83.4	84.7	77.7	90.7
Percent with a Bachelor's Degree or Higher	41.7	47.7	40.5	40.6	28.0	36.2
Median Household Income	$37,485	$61,455	$74,335	$46,761	$45,922	$47,021
Percent Person Below Poverty	14.5	3.4	7.5	12.5	13.5	9.7
Metropolitan Area	X	X	X	X	X	X
Percent of Employment by Industry						
Agriculture, Forestry, Fishing & Hunting	1.0	0.3	0.5	0.3	0.1	1.4
Mining	0.1	0.1	0.0	0.2	0.0	0.0
Construction	5.1	5.5	5.0	7.8	4.9	4.9
Manufacturing	6.8	9.6	27.5	13.2	14.1	8.8
Wholesale Trade	3.1	4.8	3.0	2.4	3.8	2.4
Retail Trade	11.3	12.0	9.9	10.7	10.1	10.6
Transportation & Warehousing	2.0	3.8	2.4	2.2	6.2	2.9
Utilities	0.9	0.6	0.4	0.6	0.5	0.7
Information	2.6	7.5	4.6	4.3	3.4	2.6
Finance & Insurance	5.7	7.9	2.7	4.6	6.9	19.3
Real Estate. Rental & Leasing	1.7	2.2	1.8	2.4	2.1	1.4
Professional, Scientific & Technical Services	4.0	10.5	11.6	9.6	8.4	3.9
Management of Companies & Enterprises	0.1	0.1	0.0	0.0	0.1	0.0
Administrative, Support & Waste Mgmt Services	2.3	2.9	3.9	3.9	4.2	3.1
Educational Services	19.0	7.9	7.2	9.9	8.0	12.8
Health Care & Social Assistance	17.8	11.0	7.5	7.4	10.8	9.2
Entertainment, Accommodation & Food Services	8.3	6.2	5.8	8.3	7.4	8.6
Other Services	4.0	4.0	3.6	4.6	5.0	4.2
Public Administration	4.4	3.1	2.5	7.6	3.9	2.9

Source: US Bureau of the Census.

Figure 5.
Income Surplus and Deficit from the United States for the Columbia MSA, Totals 1997-2000.



NOTE: Net Deficit indicates the destination of income that left the Columbia MSA (income out-migration to the county exceeded income in-migration from the county).
Net Surplus indicates the origination of income that entered the Columbia MSA (income in-migration from the county exceeded income out-migration to the county).

V. Summary

In summary, by taking into account the net difference between income flowing into and out of the Columbia MSA, one can identify areas of net income surplus or deficit. This information can assist public officials in discerning the possible causes of migration, which can be used to craft policies that maximize the benefits and minimizes the costs of migration.

Examining migration patterns within Missouri, the Columbia MSA gained more in income than it lost from the larger regional cities in central Missouri. This in-migration to Columbia is partly attributable to the movement of professionals and college students for employment opportunities and higher education. The top areas where Columbia pulls in surplus income from within Missouri include Mexico, Jefferson City, Moberly, Sedalia, Fort Leonard Wood, Kirksville, Macon, Springfield, Rolla and Popular Bluff.

Also within Missouri, the Columbia MSA lost more in income than it gained from the major metropolitan areas, adjacent rural counties and the Lake of the Ozarks region. This out-migration from Columbia is partly attributable to the movement of professionals and newly graduated college students to the state's core metropolitan areas for employment opportunities, the suburbanization of adjacent rural counties by people who work in Columbia, and the discretionary migration of retirees to natural amenity areas. The top areas where Columbia loses income within Missouri include Kansas City, St. Louis, Booneville, Fulton, Fayette, Camden County and Springfield/Branson.

Examining migration patterns within the United States, the Columbia MSA gained more in income than it lost to coastal metropolitan areas and centers of higher education, health care and government. This in-migration to Columbia is partly attributable to the movement of professionals and college students for opportunities in higher education and health care. The top areas where Columbia pulls in surplus income from outside of Missouri include Springfield IL, San Diego CA, Quincy IL, Little Rock AR, Miami FL, Urbana-Champaign IL, Edwardsville-St. Louis IL, Cedar Rapids IA, Knoxville TN and Athens GA.

Also within the United States, the Columbia MSA lost more in income than it gained to major metropolitans areas and centers of information technology, higher education and health care and insurance. This out-migration from Columbia is partly attributable to the movement of professionals and graduating college students to metropolitan areas for employment opportunities, faculty and students to centers of higher education, health professionals to major medical centers, and the movement of insurance professionals. The top areas where Columbia loses income outside of Missouri include Kansas City KS, San Jose CA, Austin TX, Chicago IL, Bloomington-Normal IL, Seattle WA, Fort Collins CO, Lawrence KS, Columbus OH and Los Angles CA.

Appendix A - Data and Methodology

BASIC DATA SOURCE

The extracts include records for individual income tax forms 1040, 1040A and 1040EZ (Beginning with the tax year 1987, the foreign category also includes forms 1040NR, 1040PR, 1040VI and 1040SS.) processed through Cycle 39 (the 39th week in the IRS's processing year) which is in late September. Returns processed after that date are not included in the data. The extracts usually contain about 95 to 98 percent of all returns filed during any particular tax year. The returns cover the tax filing units -- the filer and spouse of filer, plus all exemptions represented on the forms. The tax year 1997 file contained, for example, 105 million returns representing about 227 million persons, as defined by the exemptions reported on the forms.

Thus, there are two limitations of these data sources -- file coverage and population coverage. Because the file coverage is not complete, any control counts shown in these tables will not match analogous control counts in other IRS statistical data products. Second, there are segments of the population that are not well represented by tax returns; most notably, the elderly and the poor. Thus, care should be exercised when using these data as proxies for the other population universes.

REFERENCE PERIOD

The tax returns are (mostly) filed during the spring following the end of the tax year. The 1996 tax returns are, for example, filed in the spring of 1997 and represent residence as of filing. Thus, when we refer to income or the files themselves, we refer to tax year. When we refer to migration year, we refer to the year in which the return was filed. Thus, the match of tax years 1995 and 1996 produces 1996 to 1997 migration estimates.

MATCHING RETURNS

Tax returns are matched for two particular tax years (usually current year and prior year). These are generically referred to as Year-1 (prior year) and Year-2 (current year). There are three categories of match status: (a) matched, (b) unmatched, Year-1 only, and (c) unmatched, Year-2 only. The match is made based on the SSN of the primary filer only. That is, no match is attempted on the secondary filer. Suppose, for example, a husband/wife couple file a joint return in Year-1 but both file separate returns in Year-2. Then, the Year-1 joint return matches to the Year-2 husband's separate return. The spouse's Year-2 separate return becomes a nonmatch. An analogous situation occurs with two separate returns in Year-1 and a joint return in Year-2. This algorithm can be bothersome when changes in Federal and state tax law induce a change in filing status for husband/wife couples.

NUMBER OF RETURNS

The number of returns is used as a proxy for the number of households. The number of returns includes records for individual income tax forms 1040, 1040A, 1040EZ and 1040NR (the foreign category also includes forms 1040PR, 1040VI and 1040SS) processed through Cycle 39 (the 39th week in the IRS processing year) which is in late September. Returns processed after that date are not included in the data. The number of returns also exclude single returns with the filer deceased and joint returns with both the filer and spouse of filer deceased (and there are no other filer exemptions on the return); and returns that are not geographically coded. Also, the "zero exemption" returns are excluded.

It is possible for a person to file a return and still be claimed as an exemption on another person's return. However, the tax filer is not allowed to claim a personal exemption if he (or she) is claimed as an exemption on another person's return. Most of these cases were children who had enough income to be required to file a return, but who were also eligible to be claimed as an exemption on their parents' return. Responses to questions on the various 1040 forms identify these "zero exemption" cases. These returns are not tabulated as a return or as an exemption in the migration or income data products. However, the income included in these returns is included in the aggregate income tables.

NUMBER OF EXEMPTIONS

The number of exemptions is used as a proxy for the number of persons within a household. The number of total exemptions (usually referred to as the primary/secondary less deceased method) is defined as:(a) one for the primary filer if not deceased; plus (b) one for the secondary filer if present and not deceased; plus (c) the number of children exemptions at home, away and with EIC; plus (d) the number of parents' exemptions at home or away; plus (e) the number of other exemptions. The number of exemptions is defined from the year-2 returns for all matched returns and the year-2 only returns. The number of exemptions for the year-1 only returns are by necessity, derived from the year-1 return.

INCOME DATA

The income amounts represent the taxable income amounts shown on the tax forms. The amounts from the "estate" returns and the "zero exemption" returns are included in the tallies. Aggregate income is the sum total of the income amounts from all applicable records. Median income is derived from an income distribution tally, with linear interpolation within the data cell in which the median is included.

- Wage and Salary Income includes income from wages, salaries, tips, etc (see line 7 on the form 1040)
- Interest Income includes taxable interest income and the non-taxable interest income (see lines 8a and 8b in the form 1040)
- Dividend income includes taxable distributions of money, stock, or other property received from domestic or foreign corporations, excluding non-taxable distributions or distributions that are treated as interest income (see line 9 on the form 1040).
- Gross rent and royalty income includes the income from rents, royalties, partnerships, estates, trusts, etc. as reported on Schedule E, excluding deductions for depreciation and business expenses.

Adjusted gross income includes the taxable income from all sources, less the adjustments to income, such as IRS deduction, self employment tax and health insurance, alimony paid, etc. (See line 32 on the form 1040).

Total income is a special definition which most closely approximates the Census Bureau's definition of total income. It is the sum of the following items: (1) wage and salary; (2) total interest (taxable and tax-exempt); (3) dividends (taxable); (4) alimony received; (5) business income (or loss); (6) total pensions and annuities; (7) net rents, royalties, estates, trusts, etc. (or loss); (8) farm income (or loss); (9) unemployment compensation; and (10) total social security benefits (taxable and nontaxable). Note that it does not include (a) capital gains distributions (lines 13 and 14 on the form 1040), (b) taxable refunds or credits from state or local income taxes (line 10 on the form 1040), or (c) other income (line 21 on the form 1040). Also, it does not include the IRS' adjustments to income (lines 23 to 30a on the 1040).

P-1002-1
October 2002

Direct all correspondence to David J. Peters
Missouri Economic Research and Information Center
Missouri Department of Economic Development

580 Harry S. Truman Building
Missouri Economic Development
PO Box 3150
Jefferson City, MO 65102-3150

TEL: (573) 522-6261
FAX: (573) 751=7385
E-MAIL: dpeters@ded.state.mo.us
WEB: http://www.MissouriEconomy.org